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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,597	06/18/2001	Paul E. McKenney	BEA920010011US1	3364
30011	7590	03/17/2004	EXAMINER	
LIEBERMAN & BRANDSDORFER, LLC 12221 MCDONALD CHAPEL DRIVE GAITHERSBURG, MD 20878			ZHEN, WEI Y	
			ART UNIT	PAPER NUMBER
			2122	8

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/884,597

Applicant(s)

MCKENNEY, PAUL E.

Examiner

Wei Y Zhen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 and 28 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 8-11, 16, 18-23 and 25 is/are rejected.
- 7) ☒ Claim(s) 3-7, 12-15, 17, 24 and 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This office action is in response to the amendment filed on 1/2/2004.
2. Claims 1-28 are pending.
3. Claims 1-2, 10-11, 16, 21, 23, 25 are finally rejected under 35 U.S.C. 102(b) as being anticipated by Temma et al, U.S. Patent No. 5,796,996.
4. Claims 8-9, 18-20, 22 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Temma et al, U.S. Patent No. 5,796,996.
5. Claims 27-28 are allowed.
6. Claims 3-7, 12-15, 17, 24, 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 10-11, 16, 21, 23, 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Temma et al, U.S. Patent No. 5,796,996.

As per claim 1, Temma et al discloses

Forcing each CPU to execute a memory barrier instruction (col. 3 lines 19-21, “execution of the CPU instruction by the forced ejection of the output buffer...”);

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Having each CPU send an indicator communicating completion of said memory barrier instruction (col. 4 lines 2-5, "...completion of the ejection is notified...").

As per claim 2, Temma et al discloses

Forcing each CPU to execute a memory barrier instruction includes sending an interprocessor interrupt to all CPUs (col. 3 line 14, "CPU is set to the interruption masking state" and col. 4 lines 40-43, "A CPU has...an interruption program processing section for interrupting the execution of the control program....").

Claim 10 is rejected for the reason set forth in the rejection of claim 1.

Claim 11 is rejected for the reason set forth in the rejection of claim 2.

As per claim 16, Temma et al discloses

Wherein the instruction manager includes a tool for each CPU to register completion of said memory barrier instructions (col. 4 lines 2-5, "...completion of the ejection is notified...").

Claim 21 is rejected for the reason set forth in the rejection of claim 1.

Claim 23 is rejected for the reason set forth in the rejection of claim 2.

Claim 25 is rejected for the reason set forth in the rejection of claim 7.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-9, 18-20, 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Temma et al, U.S. Patent No. 5,796,996.

As per claims 8 and 9, Temma et al does not explicitly disclose providing array for CPU to register memory barrier request, scanning array to determine execution of memory barrier instruction as claimed. Official Notice is taken that using array to register memory request were well known in the art at the time the invention was made. Therefore, it would have been obvious to one having ordinary skill in the art to incorporate the teaching of the well known knowledge into the teaching of Temma et al to use array to register memory request because one would want to utilize array to store and organize data to facilitate the retrieval of data from array.

Claims 18-20 correspond to claim 8-9 and are rejected for the reasons et forth in the rejections of claims 8-9.

As per claim 22, Temma et al does not explicitly disclose wherein the medium is selected from the group consisting of: a recordable data storage medium, and a modulated carrier signal. Official Notice is taken that a recordable data storage medium, and a modulated carrier signal were well known in the art at the time the invention was made. Therefore, it would have been obvious to one having ordinary skill in the art to incorporate the teaching of the well known knowledge into the teaching of Temma et al to have the medium be selected from

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the group consisting of: a recordable data storage medium, and a modulated carrier signal because one would want to utilize various types of medium to meet the needs of various types of systems.

***Allowable Subject Matter***

9. Claims 27-28 are allowed.
10. Claims 3-7, 12-15, 17, 24, 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

11. Applicant's arguments filed on 1/2/2004 have been fully considered but they are not persuasive.

Applicant argues:

- 1) Temma et al does not show any "force" associated with the memory barrier execution. Rather Temma et al shows force associated with ejection of the output buffer, which is not the memory barrier instruction.
- 2) Temma et al does not disclose the CPU sending an indicator.
- 3) Temma et al does not sending an interprocessor interrupt.
- 4) The Examiner takes official notice regarding the use of an array for CPU to register memory barrier, as well as the selection of mediums. Applicant hereby objects to the Official Notice taken by the Examiner. The examiner must provide specific factual findings predicated

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on sound technical and scientific reasoning to support his or her conclusion of common knowledge. Furthermore, claims 8-9, 18-20, 22 are dependent claims, since the elements taught in independent claims 1, 10 and 21 are not anticipated as discussed above, applicant requests the removal of the rejected dependent claims.

Examiner's response:

1) Temma et al clearly disclose forcing each CPU to execute a memory barrier instruction (col. 3 lines 19-49, "execution of the CPU instruction by the forced ejection of the output buffer...the **ejecting operations** is executed at the time of the execution of the read instruction of the CPU...").

2) Temma et al clearly disclose having each CPU send an indicator communicating completion of said memory barrier instruction (col. 4 lines 2-5, "...completion of the ejection is notified...").

3) Temma et al clearly disclose sending an interprocessor interrupt (col. 3 line 14, "CPU is set to the interruption masking state" and col. 4 lines 40-43, "A CPU has...an interruption program processing section for interrupting the execution of the control program...").

4) Applicant has attempted to challenge the examiner's taking of Official Notice; however, applicant has not provided adequate information or arguments so that *on its face* it creates a reasonable doubt regarding the circumstances justifying the Official Notice. Therefore, the presentation of a reference to substantiate the Official Notice is not deemed necessary. The examiner's taking of Official Notice has been maintained. Since independent claims 1, 10 and 21 are properly rejected (see the rejections above), applicant has failed to point out the any

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specific errors in the rejections of claims 8-9, 18-20, 22, therefore, the rejections to claims 8-9, 18-20, 22 are proper and are maintained.

### *Conclusion*

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

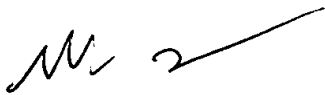
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wei Y Zhen whose telephone number is (703) 305-0437. The examiner can normally be reached on Monday-Friday, 8 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Wei Zhen  
Primary Examiner  
March 16, 2004